

Attachment 10 - Reduced Monitoring Evaluation

Reduced Monitoring Evaluation

Permittees having exemplary operations that consistently meet permit requirements are considered for reduced monitoring per the VPDES Permit Manual and in accordance with EPA's "Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies" (EPA 833-B-96-001). In order to qualify for reduced monitoring, a facility should not have been issued any Warning Letters, Notice of Violations, or Notices of Unsatisfactory Laboratory Evaluations, or be under any Consent Orders, Consent Decrees, Executive Compliance Agreements, or related enforcement documents during the past three years. The facility was not issued any enforcement related documents in the previous three years.

In order to determine if the permittee qualifies for reduced monitoring frequencies, the three year composite average loading is calculated for the discharge for most parameters based on the DMR data (**Attachment 9**). All data below QL was treated as zero for purposes of determining reduced monitoring eligibility. For most parameters, the composite average is compared to the permit limitation to calculate a ratio of the average to limitation. Using the ratio and the baseline monitoring frequency as determined in the Sampling Schedule Table in the VPDES Manual Section MN-2 A.3, reductions in monitoring frequencies are determined by the Reduction Monitoring Frequency table in VPDES Manual Section MN-2 A.6.b. D.O., pH, and temperature are evaluated differently, as described below.

Monitoring frequencies for industrial discharges are determined on a case-by-case basis. Because the wastewater treatment process at the Phillip Morris Park 500 plant is similar to that of a municipal plant, the baseline monitoring frequencies for those parameters that are eligible were based on frequencies for a 2.9 MGD major, municipal plant.

The following parameters were evaluated for reduced monitoring frequencies: pH, cBOD₅, TSS, and ammonia. To ensure aquatic life and human health, disinfection and dechlorination parameters are not eligible for reduced monitoring. Previous permits did not include specific bacteria monitoring or dissolved sulfides; therefore, the monitoring frequency for these parameters are not eligible for reduced monitoring frequency. Reduction in monitoring frequencies for dissolved oxygen may be granted on a case-by-case basis at facilities with a passive post aeration system. The facility does not have a passive aeration system; therefore dissolved oxygen is not eligible for reduced monitoring frequencies.

Reduced monitoring frequencies for pH shall only apply when the minimum or maximum pHs do not fall within 0.5 units of the permit limitations. The permit limitations for pH are a minimum of 6.0 S.U. and a maximum of 9.0 S.U. Review of DMR data from July 2004 to February 2009 indicates that the facility had one result out of 55 of the effluent measuring 6.5 S.U., which occurred in January 2007. In most circumstances, the one 6.5 value would disqualify a facility from being eligible for reduced monitoring. However this facility is certified as an E4 in the Virginia Environmental Excellence Program and is eligible for regulatory flexibility. Therefore, it is the opinion of staff that reduced monitoring frequency for pH be granted from 1 time per day to 5 times per week.

Parameter	2004 Permit Monitoring Frequency	Baseline Monitoring	Average DMR Data	Permit Limit	Ratio	Proposed Permit Monitoring Schedule
pH	1/day	1/day	NA	NA	NA	5/week
cBOD ₅	1/week	1/day	82.348 (lb/d)	600 (lb/d)	0.137247	1/week
TSS	3/week	1/day	92.332 (lb/d)	450 (lb/d)	0.205183	1/week
Ammonia	1/week	1/day	4.418 (lb/d)	92.0 (lb/d)	0.0480	1/week

Attachment 11 - Whole Effluent Toxicity Testing Evaluation

Whole Effluent Toxicity Testing Evaluation

BACKGROUND:

Phillip Morris USA operated the Park 500 plant at 4100 Bermuda Road in Chesterfield County. Tobacco materials are reclaimed for use in the cigarette manufacturing process. The Standard Industrial Classification (SIC) Code for this operation is 2141, Tobacco Stemming and Re-drying. Process wastewater from the operation is treated by an activated sludge treatment plant and discharged through Outfall 001 to the James River. Design flow for the plant is 2.9 MGD. This discharge structure is equipped with a diffuser plate that provides a dilution ratio under acute condition conservatively estimated at 14:1. For chronic conditions, the tidal default ratio of 50:1 is assumed.

PERMIT REQUIREMENTS:

The permit for this facility was reissued on June 17, 2004 and included whole effluent monitoring requirements. The condition required annual acute toxicity tests using *Ceriodaphnia dubia* in 48-hour static tests; the endpoint for determining toxicity is an LC_{50} of 23.6% or less. The attached memo from Deborah Debiase dated 1/15/93 shows how the toxicity endpoint was calculated.

It should be noted that the WET testing in chronic conditions was not required. In a fact sheet memo dated December 18, 1981 - Park 500 Division of Phillip Morris Inc, Justification for Permit Limitations (attached), Ray Jenkins states that "chronic (28-day) bioassays have been done on the treatment plant effluent which showed the effluent to be non-toxic."

DATA SUMMARY:

The data review includes the results of four sets of biological analyses. All testing was performed by Coastal Bioanalysts, Inc of Gloucester Point, Virginia according to approved test protocols. Results of all tests are shown below:

Test Date	Test Results LC_{50}	TU_a
March 2005	98.6%	1.01
March 2006	100%	1.00
March 2007	59.0%	1.69
March 2008	100%	1.00

DISCUSSION & RECOMMENDATION:

All of the test results were higher than the toxicity criterion of 23.6% established in the permit; therefore, the effluent passed the acute toxicity test and the plant is in compliance with the Toxics Management Program requirements in the 2004 permit. All required testing has been performed on schedule using valid procedures and results of these tests do not indicate a need for more extensive testing.

For the upcoming permit cycle, continuation of the annual acute biological monitoring requirement is recommended: annual acute toxicity tests using *C. dubia* in 48-hour static tests performed with a 24-hour proportioned composite effluent sample. The target value for further testing of LC_{50} of 24% (equivalent $TU_a = 4.16$) is based on the wasteload allocations calculated using the WETLIM_2005.xls spreadsheet.

Additionally, after consulting with the toxics program manager in the Office of Water Permitting and Compliance Assistance, staff has determined that chronic testing of the effluent is also appropriate. The chronic (28-day) test discussed in the December 18, 1981 does not measure survival and reproduction. Therefore, chronic biological monitoring will be required quarterly for the first year of the permit term. Subsequent chronic biological monitoring shall be conducted annually.

Spreadsheet for determination of WET test endpoints or WET limits

Excel 97
Revision Date: 01/10/05
File: WETLIM10.xls
(MIXEXE required also)

Acute Endpoint/Permit Limit

Use as LC₅₀ in Special Condition, as TUa on DMR

LC₅₀ = 26 % Use as 3.84 TUa

Note: Inform the permittee that if the mean of the data exceeds this TUa: 1.09579618 a limit may result using WLA EXE

Chronic Endpoint/Permit Limit

Use as NOEC in Special Condition, as TUC on DMR

NOEC = 3 % Use as 33.33 TUC

NOEC = 3 % Use as 33.33 TUC

NOEC = 3 % Use as 33.33 TUC

Note: Inform the permittee that if the mean of the data exceeds this TUC: 15.9258425 a limit may result using WLA EXE

Diffuser modeling study?

Enter Y/N

Acute 13.1

Chronic 49.1

Go to Page 2
Go to Page 3

NOTE: If the IWCa is >33%, specify the

NOAEC = 100% test endpoint for use

Plant flow/plant flow + 1Q10

Plant flow/plant flow + 7Q10

100/IWCa

100/IWCC

3.9 Instream criterion (0.3 TUa) X's Dilution, acute

49 Instream criterion (1.0 TUa) X's Dilution, chronic

39 ACR X's WLA_s - converts acute WLA to chronic units

LC50/NOEC (Default is 10 - if data are available, use tables Page 3)

Default of 0.6 - if data are available, use tables Page 2)

Default = 0.41

Default = 0.60

Default = 2.43

Default = 2.43 (1 samp)

No. of sample 1

**The Maximum Daily Limit is calculated from the lowest LTA X's eC. The LTA_s c and MDL using it are driven by the ACR.

WLA_s c X's eA

WLA_s c X's eB

NOEC = 2.954103 (Protects from acute/chronic toxicity)

NOEC = 1.396359 (Protects from chronic toxicity)

NOEC = 2.954103 Lowest LTA X's eD

IF ONLY ACUTE ENDPOINT/LIMIT IS NEEDED, CONVERT MDL FROM TU_a to TU_c

LC50 = 25.641025 %

LC50 = 13.953587 %

TU_a

TU_a

28 %

14 %

Page 2 - Follow the directions to develop a site specific CV (coefficient of variation)

IF YOU HAVE AT LEAST 10 DATA POINTS THAT ARE QUANTIFIABLE (NOT "<" OR ">") FOR A SPECIES, ENTER THE DATA IN EITHER COLUMN "3" (INVERTEBRATE) OR COLUMN "1" (INVERTEBRATE). THE "CV" WILL BE PICKED UP FOR THE CALCULATIONS BELOW. THE DEFAULT VALUES FOR aA, aB, AND aC WILL CHANGE IF THE "CV" IS ANYTHING OTHER THAN 0.6.

Coefficient of Variation for effluent tests

CV = 0.6 (Default 0.6)

$$\delta^2 = 0.3074847$$

$\delta =$	0.554513029
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Using the log variance to develop eA

(P. 100, step 2a of TSD)

 $Z = 1.88$ (97% probability stat from tab)
$$A = -0.83929655$$

GA^{vr} = 0.41094688

Using the log variance to develop eB

A 2	0 096177606	(P. 100, step 20 of 350)
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04	U.086177696
A	0.203560370

04	0.293560379	0.500000000
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0.50909823

SECRET

Using the log variance to develop EC
(P. 100, step 4a of TSD)

100, 300, 400, 1000

03074847

0 = 0.554513029

C =	0.889296658
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2433417525

Using the log variance to develop eD

(P. 100, step 4b of TSD)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

δ_n^2	0.3074847
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$$\delta_n = 0.554513029$$

D DATA DATE **0.889296658**

2833417525

Age Group	2006 (%)	2008 (%)
18-29	85	80
30-49	80	75
50-69	75	70
70+	70	65

Cell: I9

Comment:

This is assuming that the data are Type 2 data (none of the data in the data set are censored - "<" or ">").

Cell: K18

Comment:

This is assuming that the data are Type 2 data (none of the data in the data set are censored - "<" or ">").

Cell: J22

Comment:

Remember to change the "N" to "Y" if you have ratios entered, otherwise, they won't be used in the calculations.

Cell: O40

Comment:

If you have entered data to calculate an ACR on page 3, and this is still defaulted to "10", make sure you have selected "Y" in cell E21

Cell: C41

Comment:

If you have entered data to calculate an effluent specific CV on page 2, and this is still defaulted to "0.6", make sure you have selected "Y" in cell E20

Cell: L48

Comment:

See Row 151 for the appropriate dilution series to use for these NOEC's

Cell: G62

Comment:

Vertebrates are:

Pimephales promelas

Oncorhynchus mykiss

Cyprinodon variegatus

Cell: J62

Comment:

Invertebrates are:

Ceriodaphnia dubia

Mysidopsis bahia

Cell: C117

Comment:

Vertebrates are:

Pimephales promelas

Cyprinodon variegatus

Cell: M119

Comment:

The ACR has been picked up from cell C34 on Page 1. If you have paired data to calculate an ACR, enter it in the tables to the left, and make sure you have a "Y" in cell E21 on Page 1. Otherwise, the default of 10 will be used to convert your acute data.

Cell: M121

Comment:

If you are only concerned with acute data, you can enter it in the NOEC column for conversion and the number calculated will be equivalent to the T_{Ua}. The calculation is the same: 100NOEC = T_{Uc} or 100LC50 = T_{Ua}.

Cell: C138

Comment:

Invertebrates are:

Ceriodaphnia dubia

Mysidopsis bahia

Facility = VA0026557 - Phillip Morris USA - Park 500
Chemical = Acute Toxicity
Chronic averaging period = 4
WLAa = 3.9
WLAc =
Q.L. = 0.1
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 4
Expected Value = 1.175
Variance = .497025
C.V. = 0.6
97th percentile daily values = 2.85926
97th percentile 4 day average = 1.95495
97th percentile 30 day average = 1.41711
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

1
1
1.69
1.01

M E M O R A N D U M

Office of Water Resources Management
State Water Control Board
P. O. Box 11143 Richmond, Virginia 23230

SUBJECT: Revised TMP for Philip Morris, Park 500 Facility
TO: Dale Phillips, OWRM
FROM: Deborah L. DeBiasi, OWRM-TMP
DATE: January 15, 1993
COPIES: Mark Richards, OWRM-TMP, A.C. Ray, PRO, TMP File

I have recently received additional information on the Philip Morris - Park 500 facility that has necessitated another revision to the TMP. There have also been some concerns raised by Lisa Sullivan, an engineer with CH2M Hill (consultant for Park 500), with the previous version of the TMP that I will address in this memo and revised TMP.

On October 30, 1992 a memo describing the effluent diffuser was received by the Piedmont Regional Office, submitted by Ethel Tatum, Senior Environmental Engineer for the Park 500 facility. The discharge capability of the diffuser was described to facilitate a modeling study to determine the extent of additional dilution provided. This information was not included in the permit application, nor was it mentioned as to when the diffuser was installed and became operational.

The information was forwarded to M. Dale Phillips, SWCB-Permits who analyzed the data with the Virginia Mixing Program and subsequently determined (memo dated November 18, 1992) that at least a 14:1 mix would occur. It was recommended that this dilution factor should be used to apply permit limits and monitoring requirements.

Since this information was not available to the Toxics Management Program staff at the time the TMP was developed, the TMP decision criterion of the draft permit did not reflect the benefit of the diffuser dilution. The 14:1 dilution calculates to a 7.14% concentration of effluent at the edge of the zone of allocated impact.

Using 0.3 TU_i (LC_i) as the toxicity criterion to be met at the edge of the ZID, the respective calculations are:

$$0.3 \text{ TU}_i / 0.0714 \text{ (dilution factor of 7.14\%)} = 4.2 \text{ TU}_i$$

or

$$7.14\% \times 3.3 = \text{allowable effluent LC}_{50} \text{ of } 23.6\%$$

$$\text{Note: } 1 \text{ TU}_i = 100 / \text{LC}_{50} \text{ of } 100\%, \text{ so } 4.2 \text{ TU}_i = 100 / 23.6\%$$

In order to meet the toxicity criterion of 0.3 TU, at the edge of the ZID, the effluent will have to pass the acute toxicity tests with an LC₅₀ of $\geq 23.6\%$ with the effluent collected from outfall 001. This endpoint will be inserted into the TMP.

A question was raised by Lisa Sullivan about the requirement in Part I.A. of the permit to maintain a chlorine residual between 1.5 and 2.5 mg/l, with no more than 12 exceedances for a calendar month, in terms of the effect of biological toxicity. To respond to this, it is necessary to take into account that there is a 14:1 dilution, or a dilution factor of 7.14%. This would calculate out to a range of 0.107 to 0.1785 mg/l chlorine residual, which biologically should not cause a problem.

There was also a request from the permittee to use the organism Daphnia pulex for their annual acute tests instead of Ceriodaphnia dubia which was selected for their permit. The annual toxicity tests are to be run using the most sensitive organism (of those tested) to the effluent. Daphnia pulex and Pimephales promelas (the fathead minnow) have not shown toxic effects, while Ceriodaphnia dubia has consistently shown sensitivity to the effluent for survival and reproduction. Therefore, the annual testing must be performed with Ceriodaphnia dubia to satisfy permit requirements.

Attachment 12 - TMDL Fact Sheet

2008 Fact Sheets for 303(d) Waters

RIVER BASIN: James River Basin

HYDROLOGIC UNIT: 02080206

STREAM NAME: James River Tidal Freshwater (Upper) Estuary

TMDL ID: JMSTFU-SAV-BAY

2008 IMPAIRED AREA ID: CB-JMSTFU

ASSESSMENT CATEGORY: 5A

TMDL DUE DATE: 2010

IMPAIRED SIZE: - Sq. Mi.

Watershed: VAP-G03E

INITIAL LISTING: 1998

UPSTREAM LIMIT:

DESCRIPTION: Fall line

DOWNSTREAM LIMIT:

DESCRIPTION: Tidal Freshwater/Oligohaline Boundary

The James River Tidal Freshwater Upper estuary, which extends from the fall line to approximately the Appomattox River, including tributaries.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Shallow Water Use - Not Supporting

IMPAIRMENT: Aquatic Macrophytes

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

During the 2006 cycle, the CB water quality standards were implemented. The Upper Tidal Freshwater James River from the fall line to the Appomattox failed the Shallow Water Use SAV criteria. The 30-day Open Water dissolved oxygen criteria were acceptable, but there was insufficient information to assess the other OW criteria or the Migratory Spawning Use.

IMPAIRMENT SOURCE Nonpoint Source, Point Source

The tributary strategy for the James River assigned sources and allocations.

RECOMMENDATION: Tributary Strategy Implementation

2008 Fact Sheets for 303(d) Waters

RIVER BASIN: James River Basin **HYDROLOGIC UNIT:** 02080206

STREAM NAME: James River and Various Tributaries

TMDL ID: G01E-03-PCB **2008 IMPAIRED AREA ID:** CB-JMSTFU

ASSESSMENT CATEGORY: 5A **TMDL DUE DATE:** 2014

IMPAIRED SIZE: ~325 - Stream miles **Watershed:** VAP-G01E

INITIAL LISTING: 2002

UPSTREAM LIMIT:

DESCRIPTION: Fall line

DOWNSTREAM LIMIT:

DESCRIPTION: Hampton Roads Bridge Tunnel

Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Not Supporting

IMPAIRMENT: Fish Tissue - PCBs, VDH Fish Consumption Restriction

During the 2002 cycle, the James River from the Fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in multiple fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the Restriction. In addition, in the 2004 cycle, the Chickahominy River from Walkers Dam to Diascund Creek was assessed as not supporting the Fish Consumption Use because the DEQ screening value for PCBs was exceeded in 3 species during sampling in 2001.

During the 2006 cycle, the VDH restriction was extended on 12/13/2004 to extend from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

The advisory was modified again on 10/10/2006 to add Poythress Run.

The impairments were combined. The TMDL for the lower extended portion is due in 2018.

IMPAIRMENT SOURCE Unknown

The source of the PCBs is considered unknown.

RECOMMENDATION: Toxic Source Assessment

2008 Fact Sheets for 303(d) Waters

RIVER BASIN: James River Basin **HYDROLOGIC UNIT:** 02080206
STREAM NAME: James River
TMDL ID: G01E-02-CHLA **2008 IMPAIRED AREA ID:** CB-JMSTFU
ASSESSMENT CATEGORY: 5A **TMDL DUE DATE:** 2010
IMPAIRED SIZE: 6.003 - Sq. Mi. **Watershed:** VAP-G01E
INITIAL LISTING: 2008
UPSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

Mainstem James River from the fall line at Mayos Bridge downstream to the JMSTFu/JMSTFI boundary at the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Open Water Subuse - Not Supporting

IMPAIRMENT: Chlorophyll

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. The upper tidal freshwater segment exceeded both the spring and summer seasonal means.

IMPAIRMENT SOURCE Point sources, Nonpoint Sources

The James River Tributary Strategy was developed to bring the river into attainment.

RECOMMENDATION: Problem Characterization

2008 Fact Sheets for 303(d) Waters

RIVER BASIN: James River Basin **HYDROLOGIC UNIT:** 02080206
STREAM NAME: James River
TMDL ID: G01E-01-BAC **2008 IMPAIRED AREA ID:** CB-JMSTFU
ASSESSMENT CATEGORY: 5A **TMDL DUE DATE:** 2010
IMPAIRED SIZE: 6.749 - Sq. Mi. **Watershed:** VAP-G01E
INITIAL LISTING: 1996
UPSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

Estuarine James River from the fall line at Mayos Bridge downstream to the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT: E.coli

The James River from the fall line to the Appomattox River has been assessed as not supporting of the Recreation use support goal based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts.

The segment has been included on the Impaired Waters list for fecal coliform since 1996. During the 2004 and 2006 cycles, the bacteria standard changed to E.coli for those stations with enough data. Some of the areas in this segment had converted to the E.coli standard, for others the fecal coliform standard was still in effect. During the 2008 cycle, the impairment was converted solely to E. coli. The TMDL for bacteria is due in 2010.

Bacteria impairment is noted at the following stations:

2-JMS109.39
2-JMS107.51
2-JMS104.46
2-JMS099.30
2-JMS087.01

IMPAIRMENT SOURCE NPS - Urban, CSO

The source of the impairment in this section of the river is believed to be urban runoff from the tributary drainage basin and from combined sewer overflow events from the City of Richmond's combined sewer system.

The City is currently undertaking CSO abatement efforts. It is recommended that the ongoing CSO special study be continued to gauge the effects of CSO abatement efforts on water quality in this segment.

RECOMMENDATION: Problem Characterization

Attachment 13 - NPDES Permit Rating Spreadsheet

NPDES PERMIT RATING WORK SHEET

NPDES NO. VA0026557

- ☐ Regular Addition
☐ Discretionary Addition
☐ Score change, but no status change
☐ Deletion

Facility Name: Phillip Morris USA – Park 500

City: Chesterfield County

Receiving Water: James River

Reach Number: _____

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
 2. A nuclear power plant
 3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate
- ☐ YES; score is 600 (stop here) ☐ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- ☐ YES; score is 700 (stop here)
☐ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 2141 Other SIC Codes: _____
 Industrial Subcategory Code: 000 49 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input checked="" type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 1

Total Points Factor 1: 5

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A ☐ Wastewater Flow Only Considered

Wastewater Type (See Instructions)	Code	Points
Type I: Flow < 5 MGD <input type="checkbox"/>	11	0
Flow 5 to 10 MGD <input type="checkbox"/>	12	10
Flow > 10 to 50 MGD <input type="checkbox"/>	13	20
Flow > 50 MGD <input type="checkbox"/>	14	30
Type II: Flow < 1 MGD <input type="checkbox"/>	21	10
Flow 1 to 5 MGD <input type="checkbox"/>	22	20
Flow > 5 to 10 MGD <input type="checkbox"/>	23	30
Flow > 10 MGD <input type="checkbox"/>	24	50
Type III: Flow < 1 MGD <input type="checkbox"/>	31	0
Flow 1 to 5 MGD <input type="checkbox"/>	32	10
Flow > 5 to 10 MGD <input type="checkbox"/>	33	20
Flow > 10 MGD <input type="checkbox"/>	34	30

Section B ☐ Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 % <input type="checkbox"/>	41	0
	10 % to < 50 % <input type="checkbox"/>	42	10
	> 50 % <input type="checkbox"/>	43	20
Type II:	< 10 % <input checked="" type="checkbox"/>	51	0
	10 % to < 50 % <input type="checkbox"/>	52	20
	> 50 % <input type="checkbox"/>	53	30

Code Checked from Section A or B: 51

Total Points Factor 2: 0

FACTOR 3: Conventional Pollutants*(only when limited by the permit)*NPDES NO: VA0026557A. Oxygen Demanding Pollutant: (check one) ☐ BOD ☐ COD ☒ Other: CBODs

Permit Limits: (check one)			Code	Points
<input type="checkbox"/>	< 100 lbs/day		1	0
<input type="checkbox"/>	100 to 1000 lbs/day		2	5
<input checked="" type="checkbox"/>	> 1000 to 3000 lbs/day		3	15
<input type="checkbox"/>	> 3000 lbs/day		4	20

Code Checked: 3Points Scored: 15

B. Total Suspended Solids (TSS)

Permit Limits: (check one)			Code	Points
<input type="checkbox"/>	< 100 lbs/day		1	0
<input checked="" type="checkbox"/>	100 to 1000 lbs/day		2	5
<input type="checkbox"/>	> 1000 to 5000 lbs/day		3	15
<input type="checkbox"/>	> 5000 lbs/day		4	20

Code Checked: 2Points Scored: 5C. Nitrogen Pollutant: (check one) ☒ Ammonia ☐ Other: _____

Permit Limits: (check one)		Nitrogen Equivalent	Code	Points
<input checked="" type="checkbox"/>	< 300 lbs/day		1	0
<input type="checkbox"/>	300 to 1000 lbs/day		2	5
<input type="checkbox"/>	> 1000 to 3000 lbs/day		3	15
<input type="checkbox"/>	> 3000 lbs/day		4	20

Code Checked: 1Points Scored: 0Total Points Factor 3: 20**FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☒ YES (If yes, check toxicity potential number below)☐ NO (If no, go to Factor 5)

Determine the *human health* toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column ☐ check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input checked="" type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: 1Total Points Factor 4: 0

FACTOR 5: Water Quality FactorsNPDES NO: VA0026557

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:

<input checked="" type="checkbox"/>	Yes	Code 1	Points 10
<input type="checkbox"/>	No	Code 2	Points 0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

<input type="checkbox"/>	Yes	Code 1	Points 0
<input checked="" type="checkbox"/>	No	Code 2	Points 5

(Bacteria)

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

<input type="checkbox"/>	Yes	Code 1	Points 10
<input checked="" type="checkbox"/>	No	Code 2	Points 0

Code Number Checked: A 1 B 2 C 2Points Factor 5: A 10 + B 5 + C 0 = 15 TOTAL**FACTOR 6: Proximity to Near Coastal Waters**

- A. Base Score: Enter flow code here (from Factor 2): 51 Enter the multiplication factor that corresponds to the flow code: 0.1

Check appropriate facility HPRI Code (from PCS):

HPRI#	Code	HPRI Score	Flow Code	Multiplication Factor	
<input type="checkbox"/>	1	1	20	11, 31, or 41	0.00
<input type="checkbox"/>	2	2	0	12, 32, or 42	0.05
<input checked="" type="checkbox"/>	3	3	30	13, 33, or 43	0.10
<input type="checkbox"/>	4	4	0	14 or 34	0.15
<input type="checkbox"/>	5	5	20	21 or 51	0.10
				22 or 52	0.30
				23 or 53	0.60
				24	1.00

HPRI code checked: 3Base Score: (HPRI Score) 30 X (Multiplication Factor) 0.1 = 3.0 (TOTAL POINTS)

- B. Additional Points ☐ NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

<input checked="" type="checkbox"/>	Yes	Code 1	Points 10
<input type="checkbox"/>	No	Code 2	Points 0

- C. Additional Points ☐ Great Lakes Area of Concern
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

<input type="checkbox"/>	Yes	Code 1	Points 10
<input checked="" type="checkbox"/>	No	Code 2	Points 0

Code Number Checked: A 3 B 1 C 2Points Factor 6: A 3.0 + B 10 + C 0 = 13 TOTAL

SCORE SUMMARYNPDES NO: VA0026557

Factor	Description	Total Points
1	Toxic Pollutant Potential	<u>5</u>
2	Flows/Streamflow Volume	<u>0</u>
3	Conventional Pollutants	<u>20</u>
4	Public Health Impacts	<u>0</u>
5	Water Quality Factors	<u>15</u>
6	Proximity to Near Coastal Waters	<u>13</u>
TOTAL (Factors 1 through 6)		<u>53</u>

S1. Is the total score equal to or greater than 80? ☐ Yes (Facility is a major) ☒ No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ No☐ Yes (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 53OLD SCORE: 48Jaime Bauer
Permit Reviewer's Name(804) 527-5015
Phone NumberApril 13, 2009
Date

Attachment 14 – Natural Treatment System Description
and Pilot Study Proposal

Today, there is an expectation that responsible companies will work to reduce the environmental impact of their business and promote the sustainability of the natural resources on which we all depend.

At Philip Morris USA, water is an important part of our environmental footprint. Our Park 500 tobacco processing facility in Chesterfield County, Va., withdraws about 1.8 million gallons of water directly from the James River each day. Water is used in our manufacturing processes and then treated in an on-site treatment plant before it is returned to the river. That treated wastewater contains substances like nitrogen and phosphorus that are present in agricultural products like tobacco.

The James River is a vital asset for our community and a major tributary to the Chesapeake Bay. Because high levels of nutrients can have an adverse impact on aquatic life, Park 500 has worked to voluntarily reduce its nitrogen loadings to the James River by 46 percent between 2001 and 2006 – though our nutrient discharges were well within state-permitted levels. Then we learned about engineered wetlands and saw an opportunity to do more.

When our Natural Treatment System is fully established – as early as the summer of 2009 – we expect to further reduce Park 500's nitrogen output by about 13 percent and phosphorus output by 34 percent. Thus far, we are really pleased with the water quality results we have seen and the new wildlife habitats that have been created right here in our backyard.

Our Natural Treatment System is believed to be the largest of its kind in Virginia, and it was made possible through the leadership and support of the Commonwealth of Virginia and the Virginia Department of Environmental Quality.

On behalf of all the employees of Philip Morris USA, I am proud to share with you this information about our project – an investment in the environment we all share.



Craig Johnson
President, Philip Morris USA

By the Numbers

The new wetland cells comprise **48 acres**.

The entire natural treatment system site (including dry areas) is nearly **70 acres**.

Designed to process up to **2.0 million gallons per day**.

More than **150,000 native plants** were planted in the six cells of the Natural Treatment System, including bullrush, pickerweed, woolgrass, spikerush, arrow arum, black potato, sweetflag and blueflag iris.

In the uplands, there are approximately **945 plants** (including more than **350 trees** such as Maple, Redbud, Joywood, Cypress, Crabapple and others).

Some 1,000 more than **70 species** of birds are expected to use the system.

The system is expected to be operational by the summer of 2009.

The system is expected to be operational by the summer of 2009.

The system is expected to be operational by the summer of 2009.

Natural Treatment System

48-acre engineered wetlands harnessing nature to reduce nutrient discharge





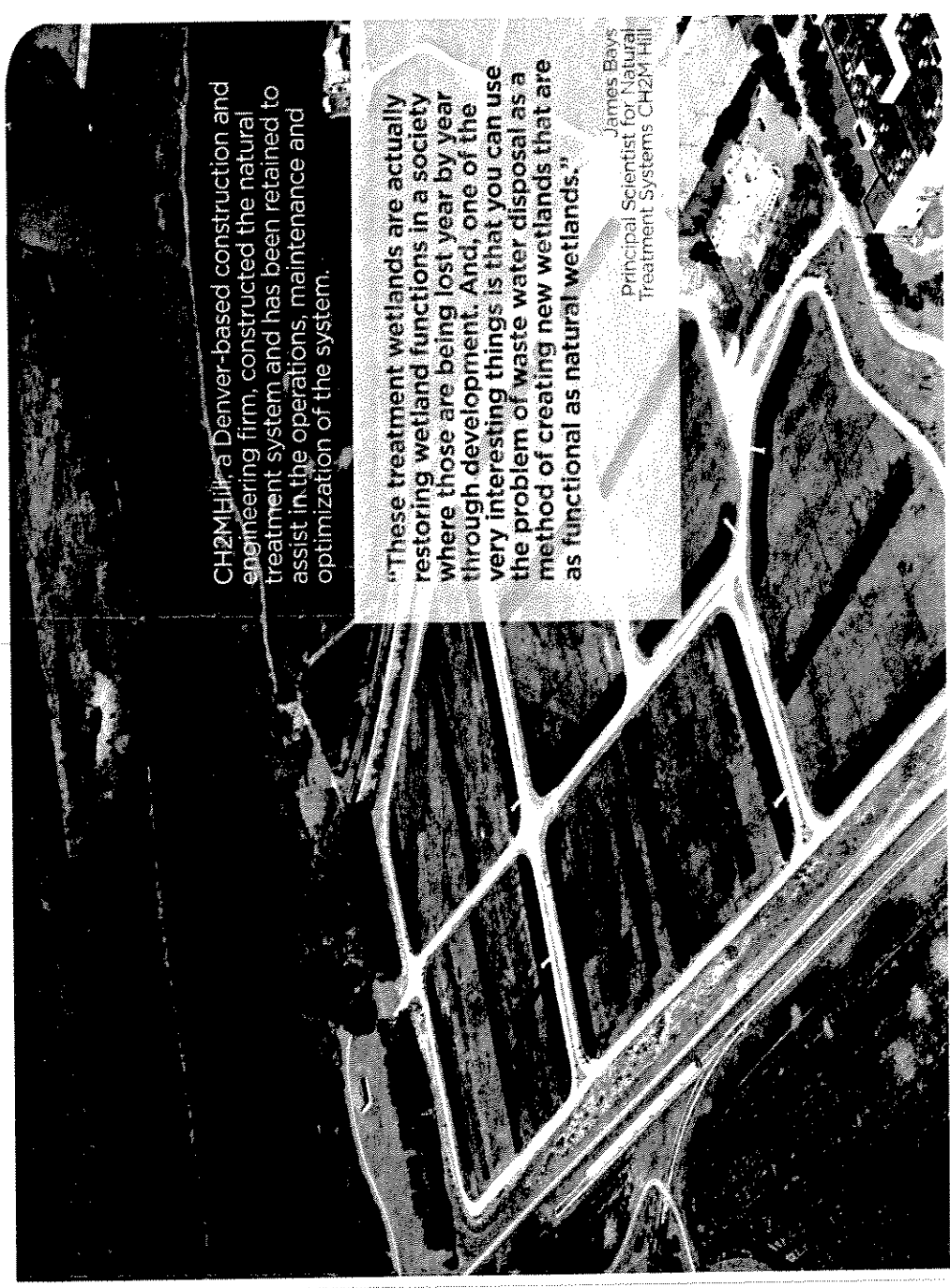
Today, there is an expectation that responsible companies will work to reduce the environmental impact of their business and promote the sustainability of the natural resources on which we all depend.

What is the Natural Treatment System?

A 48-acre engineered wetlands that uses natural physical, chemical and biological processes to further reduce nutrients from treated water before it is returned to the environment.

How it works:

1. Treated wastewater (already meeting permitted levels) is pumped from Park 500 to the highest point in the Natural Treatment System.
2. Water is diverted into one of two "trains" - each consisting of three cells. Over the next 9-12 days, gravity will move the water through the system.
3. Water enters a cell's deep zone. Up to 6' deep, these zones occur at the beginning, middle and end of each cell and ensure even water distribution. Plants in deep zones include water lilies and water lotuses.



CH2MHill, a Denver-based construction and engineering firm, constructed the natural treatment system and has been retained to assist in the operations, maintenance and optimization of the system.

"These treatment wetlands are actually restoring wetland functions in a society where those are being lost year by year through development. And, one of the very interesting things is that you can use the problem of waste water disposal as a method of creating new wetlands that are as functional as natural wetlands."

James Bays
Principal Scientist for Natural
Treatment Systems CH2M Hill

4. Water passes through a marsh zone containing grasses and plants that thrive in shallow water (less than 6" deep). Plants in marsh zones include duck potato, bull rush, pickleweed and many others.
5. After passing through the various zones within a cell, water flows from an outlet structure into the next cell.
6. After completing its three-cell journey, water from both trains flows into a holding well and is then gravity fed through an effluent pipe line to the river.

Park 500 Natural Dechlorination Test Plan

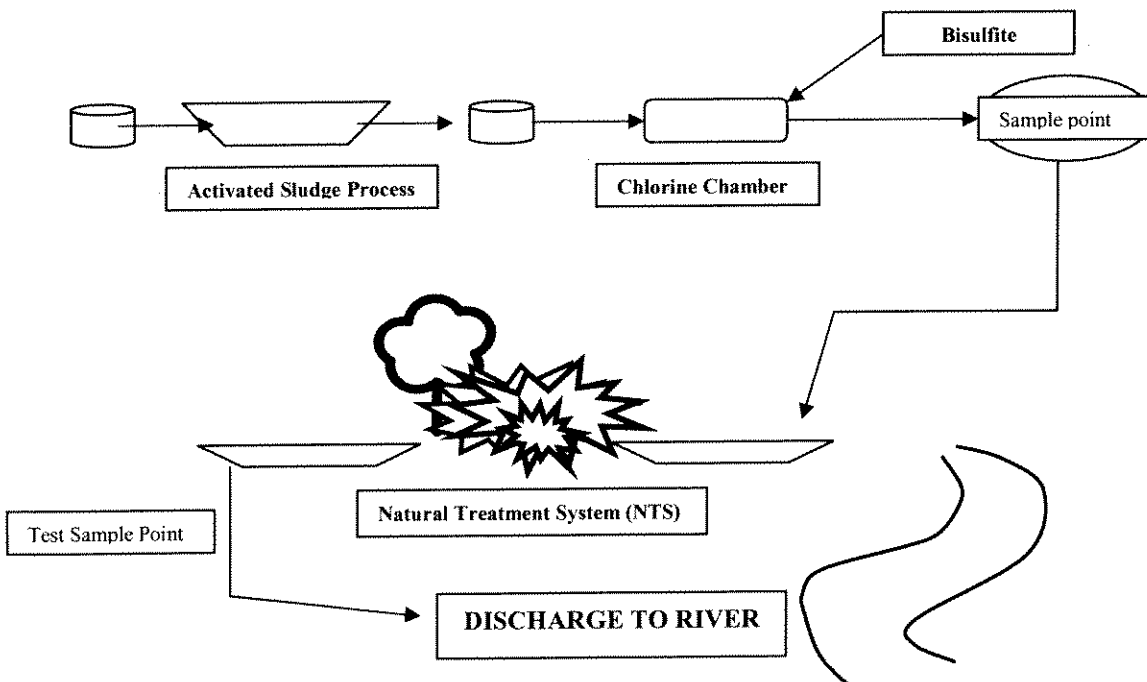
Executive Summary

Park 500 is currently meeting the residual chlorine limits of their permit with a chemical dechlorination system. This test plan proposes evaluating the Natural Treatment System (NTS) for the removal of chlorine via natural processes. The ultimate goal will be to eliminate the chemical dechlorination and continue to verify residual chlorine levels at the current discharge monitoring point.

System Description

Park 500 operates an activated sludge waste water treatment system and utilizes sodium hypochlorite for effluent disinfection. Residual chlorine is removed by sodium bisulfite addition. This process discharges to a 48 wetted acre Natural Treatment System (NTS) which polishes the effluent before it enters the James River. The treatment plant effluent is monitored to ensure that the discharge meets all permit limits. The NTS acts as a polishing system to further reduce nutrient and residual chlorine levels. The calculated volumetric retention time for the NTS is approximately 25 days. The system is represented in the diagram below:

SYSTEM DIAGRAM



Test Method

Park 500 would gradually reduce the addition of bisulfite to increase the residual chlorine levels at the discharge of the treatment plant (influent to the NTS) as described in the chart below. Park 500 would monitor the effluent from the NTS to ensure that the residual chlorine levels did not exceed 0.14 ppm, which is the current maximum average monthly discharge limit for residual chlorine. If the NTS effluent levels did exceed the 0.14 limit, the influent levels would be reduced by chemical means to the last level of testing that did not exceed the effluent limit, and the test would continue without increasing the influent levels any more. Should the maximum influent concentration of 3.5 ppm be achieved, and natural dechlorination is established, Park 500 would continue to monitor the NTS effluent for six (6) additional months to ensure that the NTS effluent would remain in compliance with the permit limits.

The test periods and influent residual chlorine levels are detailed in the below chart:

		RESIDUAL CHLORINE			
TIMELINE	Chemical Chlorine Control	NTS Influent (Test Limits in ppm)	Testing Frequency	NTS effluent (Test Limits in ppm)	Testing Frequency
7/01/09 - 8/31/09	Yes	1.0 - 1.5	Daily, M-F	0.14	Daily, M-F
9/01/09 - 10/31/09	Yes	1.5 - 2.5	Daily, M-F	0.14	Daily, M-F
11/01/09 - 12/31/09	Yes	2.5 - 3.5	Daily, M-F	0.14	Daily, M-F
1/01/10 - 6/30/10	No	1.0 - 3.5	Daily, M-F	0.14	Daily, M-F
7/01/10 and later	No	1.0 - 3.5	Daily, M-F	0.14	None

Park 500 would submit two (2) reports detailing the results of the testing. The first would be submitted in January of 2010 describing the results of the dechlorination testing, and the second would be submitted in August of 2010 describing the outcome of the test.

Desired Results

If the test proves that the Natural Treatment System is capable of naturally removing chlorine from influent with up to 3.5 ppm residual chlorine, then Park 500 would request that permit compliance be monitored by applying the 1.0-3.5 ppm limit to a measurement taken at the influent to the NTS (effluent of the treatment plant) with the knowledge that this action ensures that the effluent from the NTS to the river is well within the current limits.

Attachment 15 – Beta Particle and Photon Activity Results

Philip Morris USA

an Altria Company

July 2, 2009

Ms. Jaime L. Bauer, Environmental Specialist II
Virginia Department of Environmental Quality
Piedmont Regional Office
4949 A Cox Road
Glen Allen, Virginia 23060

RECEIVED
JUL 02 2009
PRO

Subject: VPDES Draft Permit, Dated 6-2-2009
Philip Morris USA Inc. – Park 500 Plant
Beta Particle and Photon Activity Report

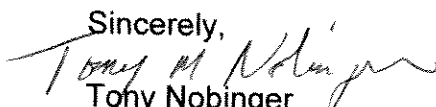
Dear Ms. Bauer:

I have enclosed the analytical results of Beta Particle and Photon Activity testing of the wastewater at the Philip Morris USA Inc. - Park 500 Plant. The testing was conducted by GEL Laboratories and included a speciation of the potential various Beta emitters. The test results show that Potassium-40 was the only isotope found in the wastewater above the test method detection limits. Philip Morris USA maintains that the presence of Potassium-40 (a naturally occurring isotope) is the reason for our wastewater Beta Particle and Photon Activity concentration level higher than 50 pCi/L and respectfully requests that you remove Condition I.C.12 from the Draft Permit.

These test results confirm our historic position that Potassium-40 is the only isotope of consequence in the wastewater and reconfirm the Beta Particle and Photon Activity test results that we submitted in 2002 in conjunction with our prior permit renewal. Philip Morris USA understands that the permit re-issuance process requires Beta Particle and Photon Activity testing and we will plan to conduct the test again in five years.

Should you have any questions regarding this submission, please call me at (804) 751-1855 or by e-mail at Tony.M.Nobinger@pmusa.com. Thank you for your consideration of our request.

Sincerely,


Tony Nobinger
Leader Area

enclosures



June 18, 2009

Mr. Chandra Patel
Philip Morris USA Inc. (PARK 500)
615 Maury Street
Richmond, Virginia 23224

Re: Radiochemistry Analytical
Work Order: 231551

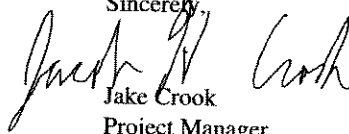
RECEIVED
JUL 02 2009
PRO

Dear Mr. Patel:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 11, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,


Jake Crook
Project Manager

Purchase Order: 8005027310
Chain of Custody: 1
Enclosures

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

PMOR001 Philip Morris

Client SDG: 231551 GEL Work Order: 231551

The Qualifiers in this report are defined as follows:

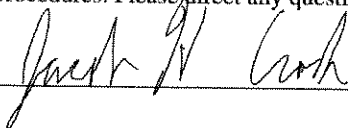
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy—Uncertain identification

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by



Certificate of Analysis

Company : Philip Morris USA Inc. (PARK 500)
Address : 615 Maury Street
Richmond, Virginia 23224

Contact: Mr. Chandra Patel
Project: **Radiochemistry Analytical**

Report Date: June 18, 2009

Client Sample ID:	Final Effluent (outfall 001)	Project: PMOR00109
Sample ID:	231551001	Client ID: PMOR001
Matrix:	Waste Water	
Collect Date:	08-JUN-09 09:33	
Receive Date:	11-JUN-09	
Collector:	Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
<i>200.2/200.7 Potassium "As Received"</i>												
Potassium		462000		250	750	ug/L	5	JWJ	06/17/09	2251	876012	1
Rad Gamma Spec Analysis												
<i>Gammascpec, Gamma, Liquid (Standard List) "As Received"</i>												
Actinium-228	U	ND	+/-10.7	15.4		pCi/L						
Americium-241	U	ND	+/-15.0	23.7		pCi/L		KXG3	06/15/09	1222	876533	2
Antimony-124	U	ND	+/-6.29	9.35		pCi/L						
Antimony-125	U	ND	+/-7.25	11.8		pCi/L						
Barium-133	U	ND	+/-3.69	6.35		pCi/L						
Barium-140	U	ND	+/-13.3	22.0		pCi/L						
Beryllium-7	U	ND	+/-25.1	44.2		pCi/L						
Bismuth-212	U	ND	+/-25.0	41.8		pCi/L						
Bismuth-214	U	ND	+/-7.41	12.7		pCi/L						
Cerium-139	U	ND	+/-2.45	4.13		pCi/L						
Cerium-141	U	ND	+/-5.23	7.87		pCi/L						
Cerium-144	U	ND	+/-19.7	30.1		pCi/L						
Cesium-134	U	ND	+/-3.82	5.48		pCi/L						
Cesium-136	U	ND	+/-5.83	10.5		pCi/L						
Cesium-137	U	ND	+/-2.97	4.84	10.0	pCi/L						
Chromium-51	U	ND	+/-25.0	43.5		pCi/L						
Cobalt-56	U	ND	+/-2.35	3.80		pCi/L						
Cobalt-57	U	ND	+/-2.36	4.11		pCi/L						
Cobalt-58	U	ND	+/-3.15	4.65		pCi/L						
Cobalt-60	U	ND	+/-3.39	6.10		pCi/L						
Europium-152	U	ND	+/-8.93	15.6		pCi/L						
Europium-154	U	ND	+/-9.47	16.6		pCi/L						
Europium-155	U	ND	+/-10.4	17.9		pCi/L						
Iridium-192	U	ND	+/-2.55	4.22		pCi/L						
Iron-59	U	ND	+/-6.26	10.1		pCi/L						
Lead-210	U	ND	+/-290	463		pCi/L						
Lead-212	U	ND	+/-7.55	9.33		pCi/L						
Lead-214	U	ND	+/-6.67	10.7		pCi/L						
Manganese-54	U	ND	+/-3.19	5.83		pCi/L						
Mercury-203	U	ND	+/-2.96	5.24		pCi/L						
Neodymium-147	U	ND	+/-28.2	44.9		pCi/L						
Neptunium-239	U	ND	+/-17.8	30.0		pCi/L						
Niobium-94	U	ND	+/-2.44	3.81		pCi/L						
Niobium-95	U	ND	+/-3.01	4.96		pCi/L						

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Philip Morris USA Inc. (PARK 500)
Address : 615 Maury Street
Richmond, Virginia 23224

Contact: Mr. Chandra Patel
Project: **Radiochemistry Analytical**

Report Date: June 18, 2009

Client Sample ID:		Final Effluent (outfall 001)				Project:		PMOR00109				
Sample ID:		231551001				Client ID:		PMOR001				
Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis												
Gammascpec, Gamma, Liquid (Standard List) "As Received"												
Potassium-40		421	+/-90.4	48.8		pCi/L						
Promethium-144	U	ND	+/-2.68	4.31		pCi/L						
Promethium-146	U	ND	+/-3.39	5.80		pCi/L						
Radium-228	U	ND	+/-10.7	15.4		pCi/L						
Ruthenium-106	U	ND	+/-27.1	45.0		pCi/L						
Silver-110m	U	ND	+/-2.66	4.43		pCi/L						
Sodium-22	U	ND	+/-3.38	5.96		pCi/L						
Thallium-208	U	ND	+/-3.12	4.71		pCi/L						
Thorium-230	U	ND	+/-3030	1770		pCi/L						
Thorium-234	U	ND	+/-139	229		pCi/L						
Tin-113	U	ND	+/-3.45	5.67		pCi/L						
Uranium-235	U	ND	+/-21.7	32.5		pCi/L						
Uranium-238	U	ND	+/-139	229		pCi/L						
Yttrium-88	U	ND	+/-3.03	4.81		pCi/L						
Zinc-65	U	ND	+/-7.20	12.0		pCi/L						
Zirconium-95	U	ND	+/-5.09	8.48		pCi/L						
Rad Gas Flow Proportional Counting												
GFPC, Gross A/B, liquid "As Received"												
Alpha	U	ND	+/-2.24	4.21	5.00	pCi/L		DXF3	06/16/09	2020	876422	3
Beta		296	+/-7.31	5.25	5.00	pCi/L						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 200.2	ICP-TRACE 200.2 Liquid Prep	BCD1	06/13/09	0821	876010

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 200.7	
2	EPA 901.1	
3	EPA 900.0	

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Philip Morris USA Inc. (PARK 500)
615 Maury Street
Richmond, Virginia
Mr. Chandra Patel

Report Date: June 18, 2009
Page 1 of 9

Contact: Mr. Chandra Patel
Workorder: 231551

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	876012										
QC1201858982	231568001	DUP									
Potassium		8900		9620	ug/L	7.82		(0%-20%)	JWJ	06/17/09	22:32
QC1201858981	LCS										
Potassium	5000			4940	ug/L		98.8	(85%-115%)		06/17/09	22:04
QC1201858980	MB										
Potassium			U	ND	ug/L					06/17/09	22:00
QC1201858983	231568001	MS									
Potassium	5000	8900		14700	ug/L		116	(75%-125%)		06/17/09	22:36
QC1201858984	231568001	SDILT									
Potassium		8900		2180	ug/L	22.3 *				06/17/09	22:39
Rad Gamma Spec											
Batch	876533										
QC1201860303	231608001	DUP									
Actinium-228	UI	0.00		47.4	pCi/L	0.934		(0% -100%)	KXG3	06/15/09	14:29
		+/-22.1		+/-16.8							
Americium-241	U	-7.28	U	-2.2	pCi/L	107			N/A		
		+/-8.40		+/-14.5							
Antimony-124	U	-6.45	U	0.0678	pCi/L	204			N/A		
		+/-7.53		+/-4.49							
Antimony-125	U	-5.24	U	8.56	pCi/L	830			N/A		
		+/-11.1		+/-6.39							
Barium-133	U	-12.1	U	0.723	pCi/L	225			N/A		
		+/-5.66		+/-3.64							
Barium-140	U	15.1	U	-9.42	pCi/L	866			N/A		
		+/-16.1		+/-11.8							
Beryllium-7	U	44.3	U	23.0	pCi/L	63.3			N/A		
		+/-33.4		+/-23.1							
Bismuth-212	U	56.9	U	14.1	pCi/L	121			N/A		
		+/-36.6		+/-23.2							
Bismuth-214	UI	0.00	UI	0.00	pCi/L	43.0			N/A		
		+/-14.6		+/-9.58							
Cerium-139	U	-0.789	U	-1.29	pCi/L	48.1			N/A		
		+/-2.90		+/-2.29							
Cerium-141	U	2.81	U	1.36	pCi/L	69.9			N/A		
		+/-5.56		+/-4.46							
Cerium-144	U	-5.31	U	-6.69	pCi/L	23.0			N/A		
		+/-21.7		+/-19.2							
Cesium-134	U	2.95	U	3.35	pCi/L	12.7			N/A		
		+/-4.22		+/-2.98							
Cesium-136	U	3.95	U	-0.492	pCi/L	257			N/A		
		+/-6.32		+/-4.20							
Cesium-137	U	1.58	U	1.79	pCi/L	12.2			N/A		

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 231551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec Batch 876533											
Chromium-51	U	+/-4.54 19.1	U	+/-2.82 4.93	pCi/L	118		N/A	KXG3	06/15/09	14:29
Cobalt-56	U	+/-31.7 1.52	U	+/-22.8 -0.314	pCi/L	304		N/A			
Cobalt-57	U	+/-3.76 1.66	U	+/-2.60 -0.0307	pCi/L	208		N/A			
Cobalt-58	U	+/-2.62 -0.331	U	+/-2.43 -0.104	pCi/L	104		N/A			
Cobalt-60	U	+/-3.08 0.513	U	+/-2.10 0.660	pCi/L	25.1		N/A			
Europium-152	U	+/-3.82 -0.227	U	+/-2.50 -2.57	pCi/L	168		N/A			
Europium-154	U	+/-11.3 -2.69	U	+/-8.18 -4.44	pCi/L	49.3		N/A			
Europium-155	U	+/-10.8 -5.48	U	+/-7.40 8.54	pCi/L	915		N/A			
Iridium-192	U	+/-11.4 1.05	U	+/-10.4 -0.679	pCi/L	923		N/A			
Iron-59	U	+/-3.32 -4.03	U	+/-2.53 -0.346	pCi/L	168		N/A			
Lead-210	U	+/-6.93 95.7	U	+/-4.91 -70.8	pCi/L	1340		N/A			
Lead-212		+/-111 31.3	UI	+/-235 0.00	pCi/L	12.0		(0% -100%)			
Lead-214	U	+/-10.7 11.6		+/-9.35 15.8	pCi/L	30.7		(0% -100%)			
Manganese-54	U	+/-9.25 1.53	U	+/-9.57 -0.903	pCi/L	777		N/A			
Mercury-203	U	+/-4.32 2.93	U	+/-2.34 1.05	pCi/L	94.2		N/A			
Neodymium-147	U	+/-3.81 -16.5	U	+/-2.81 -5.4	pCi/L	102		N/A			
Neptunium-239	U	+/-32.0 -19.2	U	+/-20.4 -3.55	pCi/L	137		N/A			
Niobium-94	U	+/-20.6 0.0776	U	+/-17.9 -1.85	pCi/L	217		N/A			
Niobium-95	U	+/-3.38 3.95	U	+/-2.68 2.29	pCi/L	53.1		N/A			
Potassium-40	U	+/-4.49 64.0		+/-2.57 172	pCi/L	91.3		(0% -100%)			
Promethium-144	U	+/-71.1 -0.899	U	+/-54.3 0.0101	pCi/L	205		N/A			
Promethium-146	U	+/-3.98 -1.3	U	+/-2.38 -0.433	pCi/L	100		N/A			

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QC Summary

Workorder: 231551

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Paramname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Radium-228	UI	+/-4.70 0.00		+/-3.29 47.4	pCi/L	0.934		(0% -100%)	KXG3	06/15/09	14:29
Ruthenium-106	U	+/-22.1 24.6	U	+/-16.8 -3.88	pCi/L	275		N/A			
Silver-110m	U	+/-32.1 -5.2	U	+/-22.7 -1.11	pCi/L	129		N/A			
Sodium-22	U	+/-4.06 -1.03	U	+/-2.24 -1.54	pCi/L	39.6		N/A			
Thallium-208	UI	+/-3.81 0.00	UI	+/-2.64 0.00	pCi/L	0.826		N/A			
Thorium-230	U	+/-7.42 171	U	+/-4.70 992	pCi/L	141		N/A			
Thorium-234	U	+/-4420 -80.2	U	+/-6400 63.9	pCi/L	1770		N/A			
Tin-113	U	+/-90.4 2.50	U	+/-155 -1.64	pCi/L	954		N/A			
Uranium-235	U	+/-4.43 -26.5	U	+/-3.47 -9.37	pCi/L	95.4		N/A			
Uranium-238	U	+/-25.9 -80.2	U	+/-20.2 63.9	pCi/L	1770		N/A			
Yttrium-88	U	+/-90.4 -1.18	U	+/-155 -2.51	pCi/L	72.0		N/A			
Zinc-65	U	+/-4.01 0.532	U	+/-2.72 -1.02	pCi/L	640		N/A			
Zirconium-95	U	+/-10.0 -1.13	U	+/-5.75 1.10	pCi/L	15400		N/A			
QC1201860305	LCS	+/-6.91		+/-4.74							
Actinium-228			U	-11 +/-39.4	pCi/L					06/15/09	13:43
Americium-241	1240			1340	pCi/L		108	(75%-125%)			
Antimony-124			U	+/-174 3.64	pCi/L						
Antimony-125			U	+/-8.47 5.38	pCi/L						
Barium-133			U	+/-21.0 -0.737	pCi/L						
Barium-140			U	+/-10.2 -4.18	pCi/L						
Beryllium-7			U	+/-26.0 -45.4	pCi/L						
Bismuth-212			U	+/-69.8 -35.2	pCi/L						
				+/-59.6							

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QC Summary

Workorder: 231551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Bismuth-214			U	7.43 +/-15.8	pCi/L						
Cerium-139			U	3.87 +/-6.88	pCi/L				KXG3	06/15/09	13:43
Cerium-141			U	-4.99 +/-10.5	pCi/L						
Cerium-144			U	-5.79 +/-46.7	pCi/L						
Cesium-134			U	-4.21 +/-10.0	pCi/L						
Cesium-136			U	-4.51 +/-12.3	pCi/L						
Cesium-137	439			434	pCi/L		99	(75%-125%)			
Chromium-51			U	+/-35.9 -13.9	pCi/L						
Cobalt-56			U	+/-61.3 -5.92	pCi/L						
Cobalt-57				+/-9.68 26.4	pCi/L						
Cobalt-58			U	+/-10.5 -4.4	pCi/L						
Cobalt-60	542			+/-7.34 552	pCi/L		102	(75%-125%)			
Europium-152			U	+/-53.6 -12.3	pCi/L						
Europium-154			U	+/-20.7 -1.02	pCi/L						
Europium-155			U	+/-13.1 -12.1	pCi/L						
Iridium-192			U	+/-26.1 0.687	pCi/L						
Iron-59			U	+/-7.15 -3.61	pCi/L						
Lead-210			U	+/-19.5 -1450	pCi/L						
Lead-212			U	+/-1580 13.1	pCi/L						
Lead-214			U	+/-12.7 -1.09	pCi/L						
Manganese-54			U	+/-45.7 6.07	pCi/L						
Mercury-203			U	+/-9.18 -1.2	pCi/L						
Neodymium-147			U	+/-7.30 5.43	pCi/L						

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QC Summary

Workorder: 231551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Neptunium-239			U	+/-50.4 40.6	pCi/L				KXG3	06/15/09	13:43
Niobium-94			U	+/-48.8 -0.00571	pCi/L						
Niobium-95			U	+/-7.34 2.17	pCi/L						
Potassium-40			U	+/-8.41 -1.27	pCi/L						
Promethium-144			U	+/-50.6 7.14	pCi/L						
Promethium-146			U	+/-7.39 -3.03	pCi/L						
Radium-228			U	+/-11.4 -11	pCi/L						
Ruthenium-106			U	+/-39.4 56.2	pCi/L						
Silver-110m			U	+/-67.6 -3.76	pCi/L						
Sodium-22			U	+/-9.06 -0.472	pCi/L						
Thallium-208			U	+/-4.64 -0.0552	pCi/L						
Thorium-230			U	+/-7.91 1810	pCi/L						
Thorium-234			U	+/-11900 -85.3	pCi/L						
Tin-113			U	+/-426 4.03	pCi/L						
Uranium-235			U	+/-9.31 3.96	pCi/L						
Uranium-238			U	+/-49.5 -85.3	pCi/L						
Yttrium-88			U	+/-426 3.75	pCi/L						
Zinc-65			U	+/-5.90 11.2	pCi/L						
Zirconium-95			U	+/-20.7 -10.9	pCi/L						
				+/-13.8							
QC1201860302	MB										
Actinium-228			U	-9.07 +/-11.0	pCi/L					06/15/09	12:43
Americium-241			U	7.95 +/-24.2	pCi/L						

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Antimony-124			U	0.805 +/-5.67	pCi/L						
Antimony-125			U	2.53 +/-6.59	pCi/L				KXG3	06/15/09	12:43
Barium-133			U	-1.37 +/-3.40	pCi/L						
Barium-140			U	-11.5 +/-10.1	pCi/L						
Beryllium-7			U	1.93 +/-21.8	pCi/L						
Bismuth-212			U	1.17 +/-25.2	pCi/L						
Bismuth-214			U	-0.118 +/-7.43	pCi/L						
Cerium-139			U	-2.74 +/-2.33	pCi/L						
Cerium-141			U	-0.0696 +/-4.09	pCi/L						
Cerium-144			U	17.2 +/-16.4	pCi/L						
Cesium-134			U	-1.01 +/-3.61	pCi/L						
Cesium-136			U	1.04 +/-4.20	pCi/L						
Cesium-137			U	-0.432 +/-2.48	pCi/L						
Chromium-51			U	-10.3 +/-21.0	pCi/L						
Cobalt-56			U	0.234 +/-2.62	pCi/L						
Cobalt-57			U	-0.577 +/-2.22	pCi/L						
Cobalt-58			U	0.658 +/-2.30	pCi/L						
Cobalt-60			U	-1.8 +/-2.47	pCi/L						
Europium-152			U	-0.94 +/-7.02	pCi/L						
Europium-154			U	2.95 +/-6.55	pCi/L						
Europium-155			U	1.24 +/-9.92	pCi/L						
Iridium-192			U	0.308 +/-2.55	pCi/L						
Iron-59			U	0.204	pCi/L						

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Lead-210			U	+/-5.30 639	pCi/L				KXG3	06/15/09	12:43
Lead-212			U	+/-923 -2.1	pCi/L						
Lead-214			U	+/-5.65 -3.04	pCi/L						
Manganese-54			U	+/-6.72 1.43	pCi/L						
Mercury-203			U	+/-2.70 0.286	pCi/L						
Neodymium-147			U	+/-2.61 -0.723	pCi/L						
Neptunium-239			U	+/-19.0 -3.62	pCi/L						
Niobium-94			U	+/-16.5 -4.7	pCi/L						
Niobium-95			U	+/-2.54 0.253	pCi/L						
Potassium-40			U	+/-2.39 -5.21	pCi/L						
Promethium-144			U	+/-33.5 1.28	pCi/L						
Promethium-146			U	+/-2.70 -1.99	pCi/L						
Radium-228			U	+/-3.63 -9.07	pCi/L						
Ruthenium-106			U	+/-11.0 -19.4	pCi/L						
Silver-110m			U	+/-23.8 -2.07	pCi/L						
Sodium-22			U	+/-2.36 0.994	pCi/L						
Thallium-208			U	+/-2.31 2.10	pCi/L						
Thorium-230			U	+/-3.59 678	pCi/L						
Thorium-234			U	+/-4520 148	pCi/L						
Tin-113			U	+/-213 0.802	pCi/L						
Uranium-235			U	+/-3.23 -10.7	pCi/L						
Uranium-238			U	+/-20.6 148	pCi/L						

QC Summary

Workorder: 231551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	876533										
Yttrium-88				+/-213							
			U	1.58	pCi/L				KXG3	06/15/09	12:43
Zinc-65				+/-2.80							
			U	-0.336	pCi/L						
Zirconium-95				+/-6.08							
			U	2.30	pCi/L						
				+/-3.67							
Rad Gas Flow											
Batch	876422										
QC1201860010	231551001	DUP									
Alpha			U	-0.685							
				+/-2.24					N/A	DXF3	06/16/09 20:20
Beta				296							
				292	pCi/L	1.38		(0% -20%)			
				+/-7.31							
QC1201860013	LCS										
Alpha				117							
					138	pCi/L		118 (75%-125%)		06/16/09	18:44
					+/-12.5						
Beta				391							
					390	pCi/L		99.8 (75%-125%)			
					+/-14.8						
QC1201860009	MB										
Alpha											
			U	0.344	pCi/L					06/16/09	20:20
				+/-0.468							
Beta											
			U	0.240	pCi/L						
				+/-1.68							
QC1201860011	231551001	MS									
Alpha			234 U	-0.685							
				+/-2.24					64 *	(75%-125%)	06/16/09 18:24
Beta			782	296							
					1220	pCi/L		118 (75%-125%)			
				+/-7.31							
					+/-42.4						
QC1201860012	231551001	MSD									
Alpha			234 U	-0.685							
				+/-2.24							
					143	pCi/L	4.59	61.1 * (0%-20%)		06/16/09	18:44
				+/-2.24							
					+/-22.7						
Beta			782	296							
					1080	pCi/L	12.1	100 (0%-20%)			
				+/-7.31							
					+/-35.6						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low

GEL LABORATORIES LLC

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
C	Analyte has been confirmed by GC/MS analysis										
D	Results are reported from a diluted aliquot of the sample										
E	Metals—%difference of sample and SD is >10%. Sample concentration must meet flagging criteria										
F	Estimated Value										
H	Analytical holding time was exceeded										
J	Value is estimated										
M	M if above MDC and less than LLD										
M	Matrix Related Failure										
N/A	RPD or %Recovery limits do not apply.										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
UI	Gamma Spectroscopy—Uncertain identification										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	QC Samples were not spiked with this compound										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/-the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Page: <u>1</u> of <u>1</u>	<h1 style="text-align: center;">GEL Chain of Custody and Analytical Request</h1>	GEL Laboratories, LLC
Project #: <u>PARK 500 (VARDES)</u>		2040 Savage Road
GEL Quote #: <u>GELPO9-0427</u>		Charleston, SC 29407
COC Number: <u>1</u>		Phone: (843) 556-8171
PO Number: <u>8005027310</u>		Fax: (843) 766-1178
GEL Work Order Number: <u>231551</u>		

GEL Chain of Custody and Analytical Request

GEL Work Order Number: 231551

Client Name: CHANDRA PAT.

Client Name: CHANDRA PATEL (PARK 500) Phone #: 804 751-1852

Project/Site Name: **PARK 500 (VADES Permit)** Fax #: **804-751-4828**

Address: 4100 Bermuda Hundred Rd. CHESTER, VA 23836

Collected by: C. Patel Send Results To: CHANDRA PATEL

Sample	Field	QC Code	*Time Collected	*Date Collected	

Sample ID	(Military) (hh:mm)	(a)	Filtered	(b)	Matrix
* For composites - indicate start and stop date/time					

Final Effluent (outfall 001)	06-08-09 09:33	G	N	ww
------------------------------	----------------	---	---	----

"	"	06-08-09 09:33	♀	N	WW
"	"				

"	"	06-08-09 09:33	G	N	NW
"	"	"	"	"	"

[illegible]

Final Effluent (Over Fall 001)	06-08-09	09:36	E	N	WW
--------------------------------	----------	-------	---	---	----

u	4	06-08-09 01:36	G	N	WU
u	4	06-08-09 01:36	G	N	WU

"	"	06-08-09 09:36	G	N	WW
"	"				

[illegible][illegible][illegible]

TAT Requested:	Normal:	Rush:	Specify: 7 days	Subject to (Surcharge)	Fax Results:	Yes
Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards						

100

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
				6/8/09	

1	06-08-09	09:45	Scherman Price 9.46
---	----------	-------	---------------------

2	2	R.M. Stalling	6/11/09
---	---	---------------	---------

3	3	3
---	---	---

1) Chain of Custody Number = Client Determined

2.) QC Codes: N = Normal Sample, TB = Trip Blank, PD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate

4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Wastewater, W=Water, SO=Soil, SD=Sediment, SL=Sludge

5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3).

6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, WHITE = LABORATORY YELLOW = FILE

WHITE - EDUCATION

SAMPLE RECEIPT & REVIEW FORM

Client: <u>PMOR</u>		SDG/ARCOC/Work Order: <u>231551</u>	
Received By: <u>RMS</u>		Date Received: <u>6/11/09</u>	
Suspected Hazard Information		Yes	No
COC/Samples marked as radioactive?			<input checked="" type="checkbox"/>
Classified Radioactive II or III by RSO?			<input checked="" type="checkbox"/>
COC/Samples marked containing PCBs?			<input checked="" type="checkbox"/>
Shipped as a DOT Hazardous?			<input checked="" type="checkbox"/>
Samples identified as Foreign Soil?			<input checked="" type="checkbox"/>
*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.			
Maximum Counts Observed*: <u>30cpm</u>			
Hazard Class Shipped: _____ UN#: _____			

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $0 \leq 6$ deg. C?		<input checked="" type="checkbox"/>		Preservation Method: ice bags blue ice dry ice <u>none</u> other (describe) <u>23c</u>
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

UPS: 1Z 284 335 03 1004 001 3

List of current GEL Certifications as of 18 June 2009

State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68-00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

RECEIVED
JUL 02 2009
PRO

June 11, 2009

Ms. Jamie Bauer
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060-6295

Reference: VPDES Permit No. VA0026557
VPDES Permit No. VAN040084

Dear Ms. Bauer:

As a result of a corporate restructuring, an update list of delegated individuals for these permits and their corporate affiliation follows:

Philip Morris USA Inc.

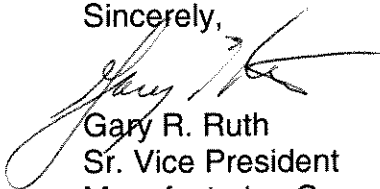
Mr. Samuel Bowen, Director Park 500 Operations
Mr. Michael J. Abel, Manager, Operations Support
Mr. Tony Nobinger, Area Leader
Mr. Chandrakant Patel, Front Line Leader
Mr. David Zimmerman, Staff Engineer

Altria Client Services

Mr. Charles L. Stiff, Director of Safety and Environmental
Mr. A. Patrick Puglisi, Manager, Compliance Assistance
Mr. Mark Davis, Associate Research Scientist

Should you have questions regarding these changes, please contact Mr. Davis.

Sincerely,



Gary R. Ruth
Sr. Vice President
Manufacturing Operations